

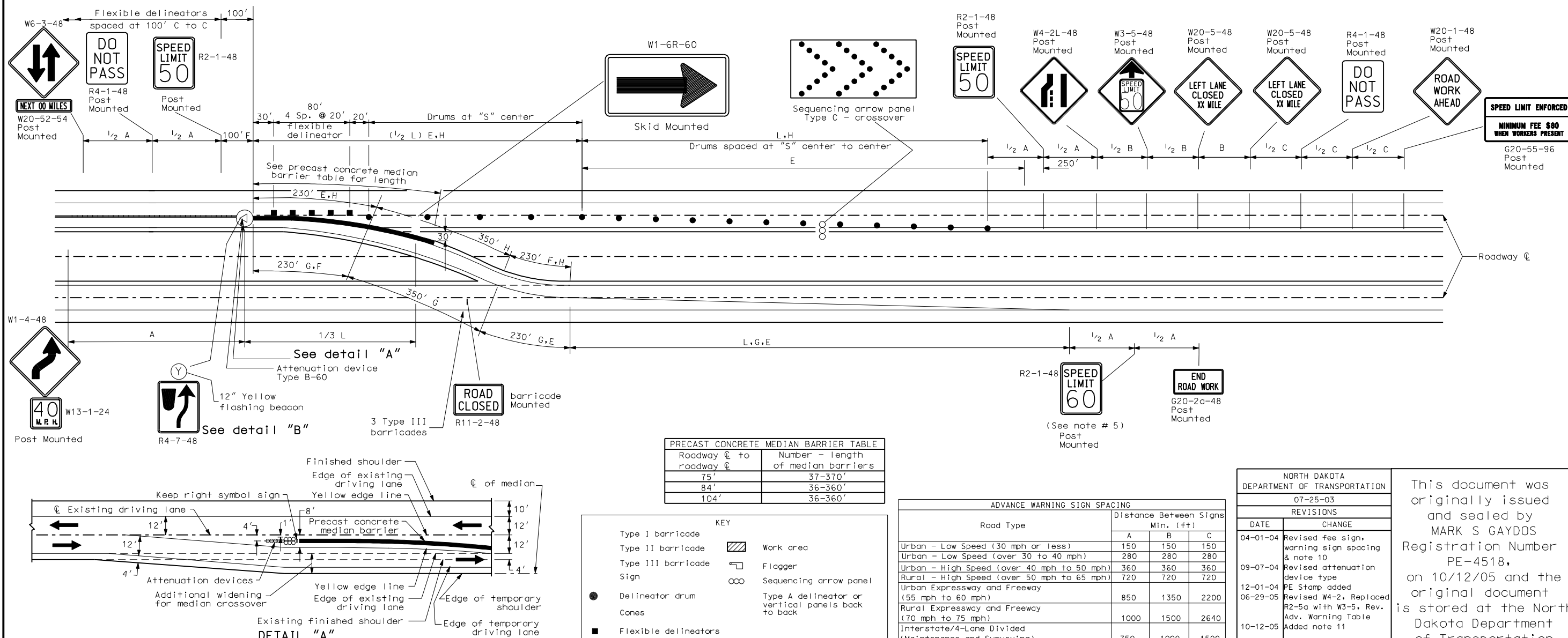
<u>TYPE III BARRICADES</u>	<u>SEQUENCING ARROW PANEL TYPE C-CROSSOVER</u>
3 Each	1 Each
<u>FLASHING BEACON</u>	<u>PORTABLE PRECAST CONCRETE MEDIAN BARRIER</u>
1 Each	See precast concrete median barrier table
<u>FLEXIBLE DELINEATORS</u>	<u>RAISED PAVEMENT MARKERS</u>
5 Each	(White) 319 Each
<u>DELINEATOR DRUMS</u>	(Yellow) 398 Each
17 Each	<u>OBSTRUCTION OF PAVEMENT MARKING</u>
<u>ATTENUATION DEVICES</u>	507 SF
1 Each - Type B-60	

Notes







- Variables
  - S = Numerical value of, posted speed limit, or off-peak 85th percentile speed prior to work starting, or the anticipated operating speed in mph.
  - W = Width of offset in feet.
  - L = Taper length in feet. Speeds 40 mph or less  $L = WS^2/60$ . Speeds 45 mph or greater  $L = WS$ .
- Barricade shown to be placed on roadway shall be on a moveable assembly. Sign to be mounted on barricades shall be mounted with the sign bottom on the top of the top barricade bar. sign shown to be placed on the roadway shall be placed on moveable assemblies.
- Delineator drums used for tapering traffic and for tangents shall be spaced as shown.
- Signs R4-1-48, W6-3-48 and W20-52-54 shall be installed at one mile increments and after each interchange
- The speed limit sign shall be placed only if the crossover is over 1 mile from an interchange exit ramp.
- Sequencing Arrow Panels
  - Panels should normally be placed at the beginning of the taper. Where shoulder width does not provide sufficient room, the panel should be moved closer to the work area so that it can be placed on the roadway surface.
  - Type A shall be used on roadways with slow moving traffic speeds and low volume (25 mph and 750 ADT or less)
  - Type B shall be used on roadways with moderate traffic speeds and volumes (40 mph and 5000 ADT or less)
  - Type C shall be used on roadways with high traffic speeds and volumes (over 40 mph and 5000 ADT)
- Existing speed limit signs within a reduced speed zone shall be covered.
- Obliterated or covered pavement marking shall be paid for as Obliteration of Pavement Marking. The covering shall be approved by the Engineer.
- The contractor has the option of using portable sign supports in lieu of post mounted sign as shown on the standard drawings as specified in section 704.03 C.
- When placing the traffic control devices, speed reductions will be necessary. These reduced speed areas shall have the "Minimum Fee \$80" sign placed below the speed limit sign. The "Work Zone Speed Limit Enforced" sign in advance of the project shall be placed at the time the traffic control devices are installed.
- Junction box shall be attached to skid or vertical brace assembly. Junction box shall be weatherproof. Size to be determined by the contractor.

Conductor shall be placed behind barricade away from traffic and tied at each barrier connection and draped above the ground.  
Between the barrier and pole the conductors shall be placed a minimum of 6" underground.

DETAIL "B"



PRECAST CONCRETE MEDIAN BARRIER TABLE	
Roadway $\mathcal{C}$ to roadway $\mathcal{C}$	Number - length of median barriers
75'	37-370'
84'	36-360'
104'	36-360'

KEY	
Type I barricade	
Type II barricade	 Work area
Type III barricade	
Sign	 Flagger
	 Sequencing arrow panel
 Delineator drum	Type A delineator or vertical panels back to back
 Cones	
 Flexible delineators	

ADVANCE WARNING SIGN SPACING			
Road Type	Distance Between Signs (ft.)		
	A	B	C
Urban - Low Speed (30 mph or less)	150	150	150
Urban - Low Speed (over 30 to 40 mph)	280	280	280
Urban - High Speed (over 40 mph to 50 mph)	360	360	360
Rural - High Speed (over 50 mph to 65 mph)	720	720	720
Urban Expressway and Freeway (55 mph to 60 mph)	850	1350	2200
Rural Expressway and Freeway (70 mph to 75 mph)	1000	1500	2640
Interstate/4-Lane Divided (Maintenance and Surveying)	750	1000	1500

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-25-03	
REVISIONS	
DATE	CHANGE
04-01-04	Revised fee sign, warning sign spacing & note 10
09-07-04	Revised attenuation device type
12-01-04	PE Stamp added
06-29-05	Revised W4-2, Replace R2-5a with W3-5, Rev. Adv. Warning Table
10-12-05	Added note 11

This document was  
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Registration Number  
PE-4518,  
on 10/12/05 and the  
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